

REMARKS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

The specification has been amended above to correct typographical errors discovered on review.

Claims 2-16 remain pending. Applicant notes with appreciation the Examiner's indication that claims 2-12 contain allowable subject matter. Although the Examiner noted that the claims 2-12 would be allowable if rewritten to overcome the rejections under 35 USC §112, second paragraph, it is noted that no rejection under 35 USC §112, second paragraph was stated in the Examiner's Office Action. Claims 2, 5, 7, 9 and 11 have now been presented in independent form. It is therefore respectfully submitted that claims 2-12 should now be allowed.

Claim 1 was rejected under 35 USC 102(e) as being anticipated by Suzuki et al. Applicant respectfully traverses this rejection.

However, to advance prosecution, claim 1 has been canceled and claims 13 and 15 have been presented in independent form. It is therefore respectfully submitted that the Examiner's rejection of claim 1 has been mooted.

Claims 13-16 were rejected under 35 USC §103(a) as being unpatentable over Suzuki et al. Applicant respectfully traverses this rejection.

Claim 13 has been amended above to be directed more specifically to the embodiment of Figure 19 as described, e.g., at page 30, lines 2-21. Thus, claim 13 recites more specifically that the desired coolant temperature setting means sets the desired coolant temperature variably based on the combustion condition. In particular, claim 13 states that the desired coolant temperature setting means sets a desired coolant temperature according to a combustion mode that is switched between a

stratified-charge combustion mode and a uniform charge combustion mode where the internal combustion engine is of a direct-injection type. Claim 15 on the other hand is directed more specifically to the embodiment of Figure 20, for example, described at page 31, line 19 – page 32, line 10. Thus, claim 15 provides more specifically that the desired coolant temperature setting means sets the desired coolant temperature according to a combustion mode that is switched between a lean-burn mode and a stoichiometric combustion mode where the internal combustion engine is of a lean-burn type. Because the desired coolant temperatures are set variably based on the combustion conditions (stratified, uniform, lean-burn, stoichiometric), the coolant temperature can be controlled to the desired value most efficiently for the engine in respect of friction, engine output, fuel consumption, etc.

Suzuki teaches engine coolant temperature control to a desired temperature based on various conditions. However, in contrast to the invention as specifically recited in applicant's claims 13 and 15, Suzuki does not teach or suggest specific combustion conditions to be used for setting the desired coolant temperature. Moreover, Suzuki fails to teach any relation between the specific combustion conditions and the coolant temperatures in respect to friction, engine output, etc. In view of the fact that Suzuki does not teach or suggest setting desired coolant temperatures variably based on the combustion conditions, as specifically recited in claims 13 and 15, and because the remaining art of record does not teach or suggest the modification of Suzuki in this regard, it is respectfully submitted that claims 13 and 15 are allowable over the prior art of record.

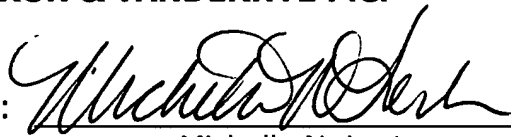
Claim 14 further limits claim 13 by reciting that the desired coolant temperature is set higher than the normal desired temperature in the case of a stratified-charge combustion mode. Thus, claim 14 even more specifically limits how the desired coolant temperature is set based on the recited combustion condition.

Claim 16 more specifically limits the internal combustion engine cooling system of claim 15 by specifying that the desired coolant temperature setting means sets the desired coolant temperature to be higher than the normal desired coolant temperature for a stoichiometric combustion mode when the lean-burn internal combustion engine is operating in a lean-burn combustion mode. Thus, claim 16 further characterizes the desired coolant temperature setting means of claim 15 based on the combustion condition. In view of the foregoing, reconsideration and withdrawal of the rejection of claims 13-16 are requested.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 
Michelle N. Lester
Reg. No. 32,331

MNL:slj
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100